

## **SYSTEM AND METHODS FOR ELECTROPHORETIC SEPARATION OF PROTEINS ON PROTEIN BINDING MEMBRANES**

### **Abstract of the Invention**

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Proteins can be rapidly separated to a high degree of resolution by electrophoresis on polymeric membranes that have high protein binding capacity. The electrophoretic separation is carried out in a low conductivity, water-miscible organic solvent buffer. The low conductivity of the organic solvent buffer minimizes heat generation, and the water-miscible nature of the organic solvent buffer permits the analysis of hydrophobic and low molecular weight proteins as well as hydrophilic proteins. When electrophoresis is conducted under non-denaturing conditions, it allows the detection of enzymatic activities, protein-protein interactions and protein-ligand interactions.

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